REMARKS

At the time the current Official Action was mailed, the Examiner rejected claims 1-19.
Claims 1 and 12 have been amended to set forth the recited subject matter more clearly.
Reconsideration of the application in view of the remarks set forth below is respectfully
requested.

First Rejection under 35 U.S.C. § 103

The Examiner rejected claims 1, 6, 12 and 16 under 35 U.S.C. § 103 (a) as being
unpatentable over U.S. Patent No. 5,802,269 to Poisner et al. (herein referred to as "the
Poisner reference") in view of U.S. Patent No. 6,272,601 to Nunez et al. (herein referred to as
"the Nunez reference"). In the present response, Applicants have amended independent claims
1 and 12 to set forth the recited subject matter more clearly. Applicants respectfully assert
that the amended claims are not rendered obvious by the Poisner and Nunez references, either
alone or in combination.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex
parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). Obviousness cannot be
established by combining the teachings of the prior art to produce the claimed invention absent
some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v.
Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).
Accordingly, to establish a *prima facie* case, the Examiner must not only show that the
combination includes *all* of the claimed elements, but also a convincing line of reason as to
why one of ordinary skill in the art would have found the claimed invention to have been
obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972
(B.P.A.I. 1985).

Independent claim 1, as amended, recites a system comprising a host controller "configured to coordinate the exchange of a request and data associated with the request between the processor, the main memory and the cache memory." Claim 1 further recites an internal bus structure "configured to transmit the request comprising a plurality of ordered transactions each having a unique signal type, and wherein each of the individual buses comprises a unidirectional bus configured to transmit only one signal type associated with the request but not including transmission of the data associated with the request." Similarly, claim 12 recites an internal bus structure, "configured to transmit a request comprising a plurality of ordered transactions each having a unique signal type, and each of the individual buses comprising a unidirectional bus configured to transmit only one signal type associated with the request but not including transmission of data associated with the request." Applicants respectfully submit that neither of the references disclose the recited elements.

The Examiner admitted that "Poisner does not teach that each of the individual buses comprises a unidirectional bus configured to transmit only one signal type." *See* Official Action mailed March 16, 2005, page 3. Indeed, the Poisner reference simply discloses a system that includes a bridge 33 coupled to a cache 39, a central processing unit (CPU) 31, and a main memory 35, and operates in a DDMA environment. *See id.* at Fig. 1; col. 3, lines 59-67. Poisner is completely silent with regard to the *internal bus structure*, and thus does not disclose a unidirectional bus configured to transmit *only one signal type of a plurality of signal types that are utilized to process a particular request operation* in a host controller. Thus, as recognized by the Examiner, the Poisner reference does not teach or disclose the claimed subject matter.

To cure these deficiencies, the Examiner cited the Nunez reference. Specifically, the Examiner stated, "Nunez teaches the use of an interconnect comprise of buses that are unidirectional and that carry only one unique type of signal, namely, address or data (See Column 8 Lines 1-2. A request sent across the interconnect comprises an address signal transaction and a data signal transaction." The Examiner correlated "address" and "data" as the recited "signal types."

As described in the present specification, a host controller generally coordinates the exchange of requests *and* data associated with those requests between processor buses, I/O buses and memory. Page 8, line 22 – page 9, line 1. Each *request* includes a series of ordered exchanges or transactions, each having a respective/unique signal type. Page 11, lines 9-23. Advantageously, by executing each transaction associated with a request on a separate, individual bus, routing congestion is minimized. Page 11, line 23 – page 12, line 1. In light of the present specification, it is clear that the disclosed internal data bus is configured to transmit *request* transactions, not *data* associated with the request. The internal data bus is provided to transmit a plurality of ordered transactions associated with the request.

The independent claims have been amended to more clearly set forth the recited subject matter. The independent claims, as amended recite an internal data bus "configured to transmit a request comprising a plurality of ordered transactions each having a unique signal type, and each of the individual buses comprising a unidirectional bus configured to transmit only one signal type associated with the request but not including transmission of data associated with the request." As discussed above, in his rejection, the Examiner correlated the address signals and the data with the unique signal types. Applicants respectfully submit that this assertion is now moot in view of the current amendments. That is, independent claims 1

8

and 12 have been amended to clarify that none of the information being sent on the internal

bus structure includes the data associated with the request. The internal bus structure

provided in accordance with embodiments of the present techniques, and as clearly recited in

the present claims, only provides a mechanism for exchanging transactions (commands and

status signals) associated with a request. The internal bus structure is *not* configured to

transmit *data* associated with the requests.

Because the cited references do not disclose each of the features recited in

independent claims 1 and 12, the references cannot render the claimed subject matter obvious.

Therefore, Applicants respectfully request withdrawal of the Examiner's rejection and

allowance of claims 1, 6, 12 and 16.

Additional Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 2-5 and 13-15 under 35 U.S.C. § 103(a) as being

unpatentable over Poisner in view Nunez and Kosaraju (U.S. Patent Application Publication

No. 2002/0073261). The Examiner rejected claims 7, 8, 17 and 18 under 35 U.S.C. § 103(a)

as being unpatentable over Poisner in view of Nunez and Hanaoka et al. (U.S. Patent No.

6,584,103). The Examiner rejected claims 9 and 19 under 35 U.S.C. § 103(a) as being

unpatentable over Poisner in view of Nunez, Hanaoka, and Ketseoglou et al. (U.S. Patent No.

6,130,886). The Examiner rejected claim 10 under 35 U.S.C. § 103(a) as being unpatentable

over Poisner in view of Nunez and Miyao et al. (U.S. Patent No. 5,901,281). Finally, the

Examiner rejected claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Poisner in

view of Nunez and Deshpande et al. (U.S. Patent No. 6,587,930). Applicants respectfully

assert that the cited references, alone or in combination, fail to render the claimed subject

matter obvious, because none of the additional references cure the deficiencies of the Poisner and Nunez references discussed above with regard to claims 1 and 12. Each of the claims 2-5, 7-11, 13-15 and 17-19 depend from independent claim 1 or 12 and are allowable based on their dependency on allowable base claims. Because the cited references fail to disclose all of the claimed subject matter, even if otherwise they could be combined, the references cannot be combined to establish a *prima facie* case of obviousness. Therefore, Applicants respectfully request withdrawal of the rejections and allowance of claims 2-5, 7-11, 13-15 and 17-19.

Applicant's Erroneous Statement in Response Filed December 30, 2004.

In the Response to Arguments section of the current office action, the Examiner stated that he "acknowledges the Applicant's assertion in Paragraph 3 of Page 13 of Applicant's remarks that the Nunez reference does cure the deficiencies of the Poisner reference, with regard to the claimed subject matter."

Applicants regret a typographical error in the omission of the word "not," in the quoted passage. Applicants respectfully submit that the error was not an admission, but simply a typographical omission. For the record, the sentence in question should have stated, and was intended to state: "Further, the Nunez reference does not cure the deficiencies of the Poisner reference, with regard to the recited subject matter." The argument presented directly after that sentence make clear Applicants' position that the Nunez reference does *not* cure the deficiencies of the Poisner reference. It is respectfully requested that paragraph 3 on page 13 of the response filed December 30, 2004 be read in accordance with the corrected sentence. To interpret the statement any other way would be incompatible with and contradict
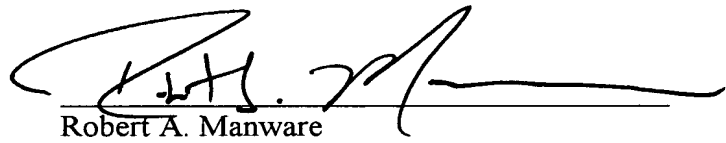
Applicants' arguments presented in the response filed on December 30, 2004, properly considered as a whole.

Conclusion

In view of the remarks set forth above, Applicants respectfully request reconsideration of the Examiner's rejections and allowance of claims 1-19. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: June 15, 2005

Robert A. Manware
Reg. No. 48,758
(281) 970-4545

Correspondence Address:
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 8527-2400